

curriculum vitae

James A. Pawelczyk

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Education

1989 Ph.D. (Biology) University of North Texas, Denton, Texas

1985 M.S. (Physiology) The Pennsylvania State University, University Park,
 Pennsylvania

1982 B.A. (Biology, Psychology) University of Rochester, Rochester, New York

Graduate and Post-Graduate Training

1989-1992 Post-doctoral Fellow, University of Texas Southwestern Medical Center, Dallas,
 Texas

1985-1989 Pre-doctoral Fellow, Department of Physiology, Texas College of Osteopathic
 Medicine, Fort Worth, Texas

1982-1985 Research Assistant, Laboratory for Human Performance Research, Penn State
 University, University Park, Pennsylvania

1980-1982 Research Assistant, Department of Physiology and Department of Athletics,
 University of Rochester, Rochester, New York

Appointments

- 1995- present Assistant Professor, Intercollege Program in Physiology, Noll Physiological Research Center, Penn State University, University Park, Pennsylvania
- 1995- present Assistant Professor, Department of Kinesiology, Penn State University, University Park, Pennsylvania
- 1996-1998 Payload Specialist, STS-90, (Neurolab), National Aeronautics and Space Administration
- 1995 Graduate Faculty, Biomedical Engineering, Southwestern Graduate School of Biomedical Sciences, University of Texas Southwestern Medical Center, Dallas, Texas
- 1992-1995 Assistant Professor, Internal Medicine, University of Texas Southwestern Medical Center, Dallas, Texas
- 1992-1995 Director, Exercise and Autonomic Function Laboratories, Institute for Exercise and Environmental Medicine, Presbyterian Hospital of Dallas
- 1993-1995 Adjunct Assistant Professor, Physiology, University of North Texas Health Science Center, Fort Worth, Texas
- 1993-1995 Adjunct Assistant Professor, Exercise and Sports Science, University of North Texas, Denton, Texas

Honors and Awards

- 1999 Doctor of Public Service (honorary) University of North Texas Health Science Center at Fort Worth
- 1998 NASA Spaceflight Medal
- 1998 Outstanding faculty award, Golden Key National Honor Society
- 1998 Heritage Award, Polish American Congress, Illinois Division
- 1997 Distinguished Alumnus, University of North Texas Health Science Center at Fort Worth
- 1996-1998 Payload Specialist, STS-90 (Neurolab), National Aeronautics and Space Administration
- 1995 New Investigator Award, Life Science Projects Division, National Aeronautics and Space Administration
- 1989-1992 Post-doctoral training award, National Institutes of Health
- 1988 Student Research Award, Texas Chapter of the American College of Sports Medicine and Tenneco, Inc.

- 1988-1989 Pre-doctoral training award, National Institutes of Health
- 1984 Research scientist, United States Olympic Swimming Trials

Professional Societies

American College of Sports Medicine
American Heart Association
American Physiological Society (pending)
Society for Neuroscience

Service

Ad hoc Reviews

American Journal of Physiology: Heart and Circulatory Physiology
American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology
Canadian Journal Physiology and Pharmacology
Journal of Applied Physiology
Journal of Gerontology
Medicine and Science in Sports and Exercise
National Heart, Lung, and Blood Institute, NIH

Societies

- 1999 Editorial Board, Journal of Applied Physiology
- 1998 Board of Directors, Pennsylvania Space Grant Consortium
- 1998 Board of Directors, Louisiana Space Grant Consortium
- 1994-1996 Board of Trustees, Texas Chapter of the American College of Sports Medicine
1987-1989
- 1990-1993 Abstract Reviewer, American College of Sports Medicine
- 1987-1989 Student Liaison Committee, American College of Sports Medicine

Activities

- 1995 Program Chairman and Host, Texas Chapter Meeting of the American College of Sports Medicine, "Applied and Environmental Physiology for the 21st Century"
- 1994- User Design Review Committee, Gas Analysis System for Metabolic Analysis and Physiology (GASMAP), National Aeronautics and Space Administration
- 1992- Scientific Consultant, Metroplex Association of Aquatic Professionals, Dallas, Texas

- 1990-1992 Laboratory Instructor for Medical Physiology, University of Texas Southwestern Medical Center, Dallas, Texas
- 1989-1990 Fitness Coordinator, Southern Leadership Institute, Weyerhaeuser Corporation, Eugene, Oregon
- 1988-1989 Fitness and Nutrition Counselor, American Lung Association, Tarrant County, Texas
- 1988-1989 Guest Lecturer, Magnet School for the Health Professions, Fort Worth, Texas

Scholarly Activity

Interests

Central neural control of the cardiovascular system
Compensatory mechanisms to conditioning and deconditioning

Grants and Contracts

Funded

- 1999-2001 P. Kris-Etherton, S. West, **J.A.Pawelczyk**. Effect of Soy Protein on Plasma lipids, lipoproteins, vascular reactivity, cell adhesion molecules, and platelet function in hypercholesterolemic men and women.
- 1998-2001 P.R. Cavanagh (PI). Foot reaction forces during spaceflight. National Aeronautics and Space Administration (Consultant).
- 1996-1998 **J.A. Pawelczyk** (PI). Payload Specialist training for STS-90, Neurolab. National Aeronautics and Space Administration
- 1996-1999 C.G. Blomqvist (PI), B.D. Levine, **J.A. Pawelczyk**, L.D. Lane, C.A. Giller, and F.A. Gaffney. "Adaptive Changes in Cardiovascular Control at Microgravity." National Aeronautics and Space Administration Mir Station, US Flights.
- 1995-1998 C.G. Blomqvist (PI), B.D. Levine, **J.A. Pawelczyk**, L.D. Lane, C.A. Giller, and F.A. Gaffney. "Integration of Neural Cardiovascular Control in Neurolab." National Aeronautics and Sapce Administration.
- 1995-2002 **J.A. Pawelczyk** (PI). "Facilitated Blood Pressure Control by Skin Cooling." National Aeronautics and Space Administration ground based and small payloads research in space life sciences.
- 1994 **J.A. Pawelczyk** (PI), B.D. Levine, and P.B. Raven. "Validation and Comparison of Flight Systems for Determination of Cardiac Output." Contracted by National Aeronautics and Space Administration.

- 1993-1998 **J.A. Pawelczyk** (PI), B.D. Levine, and P.B. Raven. "Regulation of the Distribution of Leg Blood Flow in Normal and Cardiovascular Deconditioned Humans." Research Unit, Center for Organized Research and Training Grant "Mechanisms of Physiological Adaptation to Microgravity," C.G. Blomqvist (PI), National Aeronautics and Space Administration.
- 1993-1995 **J.A. Pawelczyk** (PI), and B.D. Levine. "Mechanisms of Heart Rate and Blood Pressure Variability." American Heart Association, Texas Affiliate.
- 1993-1995 B.D. Levine (PI), **J.A. Pawelczyk**, C. Wyndham, and J. Hurwitz. "Cardiovascular Control and Mechanisms of Sudden Cardiac Death Following Myocardial Infarction." Presbyterian Healthcare Foundation.
- 1992-1997 T.G. Waldrop (PI), G.A. Iwamoto, J.H. Mitchell and **J.A. Pawelczyk**. "Central Neural Mechanisms in the Response to Exercise." Research Unit, Program Project Grant "Response and Adaptation to Exercise," J.H. Mitchell (PI), National Heart, Lung and Blood Institute.
- 1987-1989 P.B. Raven (PI) and **J.A. Pawelczyk**. "Assessment of Baroreflex Function." Texas College of Osteopathic Medicine Faculty Research Grant.
- 1986-1987 P.B. Raven (PI) and **J.A. Pawelczyk**. "Non-invasive Assessment of Baroreflex Function: A Fitness Component." The American Osteopathic Association Laboratory Development Grant.
- 1983-1984 J.L. Loomis (PI), **J.A. Pawelczyk**, J. van Wyk and K.G. Stoedefalke. "Development of a Thermally Regulated Swimming Treadmill Suitable for Human Use." The Pennsylvania State University Laboratory Development Grant

Publications

Books

Secher, N.H., **J.A. Pawelczyk** and J. Ludbrook (eds). Blood Loss and Shock. London: Edward Arnold, 1994.

Buckey, J.C., and **J.A. Pawelczyk**. Handbook of Space Physiology. New York: Oxford. Under contract. Expected completion date 12/00.

Book Chapters

Pawelczyk, J.A. Muscle vs. Skin: How does the cardiovascular system cope with the effects of exercise during thermal stress? In: Perspectives in Exercise Science and Sports Medicine, Vol. 6. C.V. Gisolfi, E.R. Nadel and D.R. Lamb (eds). Indianapolis: Benchmark, 1993.

Pawelczyk, J.A., D.B. Friedman and N.H. Secher. Experimental observations during hypovolaemic shock - insights from human investigations. In Blood Loss and Shock. N.H. Secher, J.A. Pawelczyk, and J. Ludbrook (eds). London: Edward Arnold, 1994.

Raven, P.B., J.T. Potts, X. Shi, and **J.A. Pawelczyk**. Baroreceptor mediated reflex regulation of blood pressure during exercise. In: Exercise and the Circulation in Health and Disease. B. Saltin and N.H. Secher (eds).

Articles - Published

Craig, A.B., Jr., P.L. Skehan, **J.A. Pawelczyk** and W.L. Boomer. How they swam: United States Olympic Swimming Trials, 1976 and 1984. J. Swimming Rsch. 2:26-34, 1986.

Craig, A.B., Jr., P.L. Skehan, **J.A. Pawelczyk** and W.L. Boomer. Velocity, stroke rate, and distance per stroke during elite swimming competition. Med. Sci. in Sports and Exerc. 17:625-635, 1986.

Pawelczyk, J.A., W.L. Kenney, Jr. and P.A. Kenney. Cardiovascular responses to head-up tilt after an endurance exercise program. Aviat., Space, and Environ. Med. 59:107-112, 1988.

Babb, T.G., K.W. Saupe, N. Turner, **J.A. Pawelczyk** and J.L. Hodgson. Cardiorespiratory responses to combinations of resistive, hypercapnic, and hot air breathing during simulated mine escape. Am. Ind. Hyg. Assoc. J. 50:105-111, 1989.

Davis, G.M., **J.A. Pawelczyk**, J.W. Williamson, R.M. Glaser and P.B. Raven. Effect of electrically stimulated isometric contractions on the cardiovascular responses to lower body negative pressure. Rehab. Eng. Soc. N. Amer. J.

Pawelczyk, J.A. and P.B. Raven. Reductions in central venous pressure improve carotid baroreflex responses in conscious men. Am. J. Physiol. 257(Heart Circ. Physiol. 26):H1389-H1395, 1989.

Sothmann, M., K. Saupe, D. Reisberg, J. Blaney, S. Donahue-Fuhrman, P. Raven, **J. Pawelczyk**, C. Dotson, F. Landy and J. Smith. Advancing age and the cardiorespiratory stress of fire suppression: determining a minimum standard for aerobic fitness. J. Hum. Perf. 3:217-236, 1990.

Sothmann, M., K. Saupe, P. Raven, **J. Pawelczyk**, P. Davis, C. Dotson and F. Landy. Oxygen consumption during fire suppression: error of heart rate estimation. Ergonomics 34:1469-1474, 1991.

Pawelczyk, J.A., B. Hanel, R.A. Pawelczyk, J. Warberg and N.H. Secher. Leg vasoconstriction during dynamic exercise with reduced cardiac output. J. Appl. Physiol. 73:1838-1846, 1992.

Matzen S.M., N.H. Secher, U. Knigge, **J. Pawelczyk**, G. Perko, H. Iversen, F.W. Bach and J. Warberg. Effect of serotonin receptor blockade on endocrine and cardiovascular responses to head-up tilt in humans. Acta Physiol. Scand. 149:163-176, 1993.

Raven, P.B., and **J.A. Pawelczyk**. Endurance exercise training: conditions of reduced blood pressure regulation and tolerance to LBNP. Med. Sci. Sports Exerc. 25:713-721, 1993.

Strange, S., N.H. Secher, **J.A. Pawelczyk**, J. Karpakka, N.J. Christensen, J.H. Mitchell and B. Saltin. Neural control of cardiovascular responses and of ventilation during dynamic exercise in man. J. Physiol. 470:693-704, 1993.

Alexander T., D.B. Friedman, B.D. Levine, **J.A. Pawelczyk** and J.H. Mitchell. Cardiovascular responses during static exercise in patients with complete atrioventricular block. Circulation 89:1643-1647, 1994.

Ray, C.A. and **J.A. Pawelczyk**. Naloxone does not affect the cardiovascular and sympathetic adjustments to static exercise in humans. J. Appl. Physiol. 77:231-235, 1994.

Wilson, L.B., C.K. Dyke, **J.A. Pawelczyk**, P.T. Wall, and J.H. Mitchell. Cardiovascular and renal responses to static muscle contraction of decerebrate rabbits. J. Appl. Physiol. 77:2449-2455, 1994.

Wilson L.B., P.T. Wall, **J.A. Pawelczyk** and K. Matsukawa. Cardiorespiratory and phrenic nerve responses to graded muscle stretch in anesthetized cats. Resp. Physiol. 98:251-266, 1994.

Crandall C.G., K.A. Engelke, **J.A. Pawelczyk**, P.B. Raven and V.A. Convertino. Power spectral and time based analysis of heart rate variability following 15 days simulated microgravity exposure in humans. Aviat., Space, and Environ. Med. 65:11105-1109, 1994.

Wilson, L.B., C.K. Dyke, D. Parsons, P.T. Wall, **J.A. Pawelczyk**, R.S. Williams, and J.H. Mitchell. Effect of skeletal muscle fiber type on the pressor response evoked by static contraction in rabbits. J. Appl. Physiol. 79:1744-1752, 1995.

Wilson, L.B., P.T. Wall, **J.A. Pawelczyk**, and K. Matsukawa. Divergence of ventilatory responses to isometric contraction in anesthetized cats. Resp. Physiol. 104:137-146, 1996.

Pawelczyk, J.A., J.H. Mitchell, and N.H. Secher. Cardiovascular and catecholamine responses to static exercise in partially curarized humans. Acta physiologica scandinavica. 160:23-28, 1997.

Levine, B.D., J.H. Zuckerman, and **J.A. Pawelczyk**. Cardiac atrophy after bed rest deconditioning: a non-neural mechanism for orthostatic intolerance. Circ. Res. 96:517-525, 1997.

Zhang, R., J.H. Zuckerman, **J.A. Pawelczyk**, and B.D. Levine. Regulation of cerebral blood flow after simulated microgravity. Circ. Res., 83:2139-2145, 1997.

Minson, C.T., Wladkowski, S.L., A.F. Cardell, **J.A. Pawelczyk**, and W.L. Kenney. Age alters the cardiovascular response to direct passive heating. J. Appl. Physiol., 84:1323-1332, 1998.

Minson, C.T., S.L. Wladowski, **J.A. Pawelczyk**, and W.L. Kenney. Age, splanchnic vasoconstriction, and heat stress during tilting. Am. J. Physiol. 276 (Regulatory Integrative Comp. Physiol. 45): R203-R212, 1999.

Iwasaki, K-I, R. Zhang, J.H. Zuckerman, **J.A. Pawelczyk**, and B.D. Levine. Effect of head-down-tilt bed rest and hypovolemia on dynamic regulation of heart rate and blood pressure. Am. J. Physiol. Regul. Integr. Comp. Physiol. 279(6):R2189-99, 2000.

Pawelczyk, J.A., J.H. Zuckerman, C.G. Blomqvist, and B.D. Levine. Regulation of muscle sympathetic nerve activity after bed rest deconditioning. Am J. Physiol. Heart Circ. Physiol. 280:H2230-H2239, 2001

Ertl, A.C., A. Dietrich, I. Biaggioni, R.M. Robertson, B.D. Levine, J.F. Cox, **J.A. Pawelczyk**, C.A. Ray, C.G. Blomqvist, D.L. Eckberg, F. J. Baisch, and D. Robertson. Human muscle sympathetic nerve activity and plasma noradrenaline kinetics in space. J. Physiol. 538:321-329, 2002.

Cox, J.F., K.U.O. Tahvanainen, T.A. Kuusela, B.D. Levine, W.H. Cooke, T. Mano, S. Iwase, M. Saito, Y. Sugiyama, A.C. Ertl, A. Diedrich, J.H. Zuckerman, L.D. Lane, R.J. White, **J.A. Pawelczyk**, J.C. Buckey, F.J. Baisch, C.G. Blomqvist, D. Robertson, and D.L. Eckberg. Influence of microgravity on astronauts' sympathetic and vagal responses to Valsalva's manoeuvre. J. Physiol. 538:309-320, 2002

Levine, B.D., **J.A. Pawelczyk**, A.C. Ertl, J.F. Cox, J.H. Zuckerman, A. Diedrich, I. Biaggioni, C.A. Ray, M.L. Smith, S. Iwase, M. Saito, Y. Sugiyama, T. Mano, R. Zhang, K. Iwasaki, L.D. Lane, J.C. Buckley, Jr., W.H. Cooke, F.J. Baisch, D.L. Eckberg, and C.G. Blomqvist. Human muscle sympathetic neural and haemodynamic responses to tilt following spaceflight. J. Physiol. 538:331-340, 2002.

Pawelczyk, J.A., and B.D. Levine. Heterogenous responses to infused adrenergic agonists in human limbs: A gravitational effect? J. Appl. Physiol. In press.

Articles – submitted

Pawelczyk, J.A., and B.D. Levine. Limb vascular responsiveness to adrenergic agonists before and after bedrest deconditioning.

Articles – in preparation

Pawelczyk, J.A., B.D. Levine, and P.B. Raven. Sympathetic activation with abdominal compression: Mechanism of the action of medical anti-shock trousers (MAST).

Pawelczyk, J.A., B.D. Levine and P. DeFrain. Cardiovascular and sympathetic rhythmicity without ventilation: Evidence for centrally-mediated low-frequency oscillations.

Saito, M., **J.A. Pawelczyk**, and B.D. Levine. Dissociation of sympathetic activity to skeletal muscle and dynamic exercise intensity above the lactate threshold.

Abstracts

Pawelczyk, J.A., W.L. Kenney, Jr. and P.A. Kenney. Modification of tilt-table responses by aerobic training, and analysis of indices of orthostasis. Annual meeting of the American College of Sports Medicine. Med. Sci. in Sports and Exerc. 16:184, 1984.

Pawelczyk, J.A., E. Kamon, E.R. Buskirk and P.B. Raven. The cardiac output response to continuous positive pressure breathing at rest and during exercise. Annual meeting of the American College of Sports Medicine. Med. Sci. in Sports and Exerc. 18:S14-S15, 1986.

Stevens, G.H.J., M.L. Smith, **J.A. Pawelczyk** and P.B. Raven. Baroreceptor responsiveness to phenylephrine in exercise trained humans. Annual meeting of the American College of Sports Medicine. Med. Sci. in Sports and Exerc. 19:S92, 1987.

Smith, M.L., **J.A. Pawelczyk**, G.H.J. Stevens and P.B. Raven. The effect of endurance exercise training on responses to progressive lower body negative pressure. Annual meeting of the American College of Sports Medicine. Med. Sci. in Sports and Exerc. 19:S91, 1987.

Pawelczyk, J.A., M.L. Smith, G.H.J. Stevens and P.B. Raven. Autonomic control of heart rate during progressive hypotension after endurance training: A power spectral analysis. Annual meeting of the American College of Sports Medicine. Med. Sci. in Sports and Exerc. 19:S92, 1987.

Stevens, G.H.J., **J.A. Pawelczyk** and P.B. Raven. Autonomic control of heart rate during lower body negative pressure: repeatability of power spectral analysis. Annual meeting of the American Physiological Society. Physiologist. 30:170, 1987.

Pawelczyk, J.A., G.H.J. Stevens, J.T. Peterson and P.B. Raven. Accuracy and precision of cardiac output determinations by electrical impedance during progressive lower body negative pressure. Annual meeting of the American Physiological Society. Physiologist. 30:170, 1987.

Stevens, G.H.J., A.E. Rivera-Cisneros, **J.A. Pawelczyk** and P.B. Raven. Power spectral analysis of heart rate during simulated orthostasis. Annual meeting of the American College of Sports Medicine. Med. Sci. in Sports and Exerc. 29:S23, 1988.

Pawelczyk, J.A., G.H.J. Stevens, S. Stern and P.B. Raven. Carotid baroreflex during lower body negative pressure. Annual meeting of the American College of Sports Medicine. Med. Sci. in Sports and Exerc. 29:S23, 1988.

Pawelczyk, J.A., G.H.J. Stevens, S. Stern and P.B. Raven. Effect of reductions in central blood volume on vascular responsiveness to ramped carotid baroreceptor stimulation. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 2:A118, 1988.

Raven, P.B., B. Parra, G.H.J. Stevens and **J.A. Pawelczyk**. Beat-by-beat changes in cardiac contractility during rapid ramped neck pressure-suction. Annual meeting of the American Physiological Society. Physiologist 31:A198, 1988.

Pawelczyk, J.A., J.W. Williamson, G.M. Davis and P.B. Raven. Test of the vascular resonance hypothesis of heart rate variability. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 3:A411, 1989.

Davis, G.M., J.W. Williamson, **J.A. Pawelczyk**, R.M. Glaser and P.B. Raven. Cardiovascular effects of ES-induced isometric leg exercise during lower body negative pressure. Annual meeting of the American College of Sports Medicine. Med. Sci. in Sports and Exerc. 21:S57, 1989.

Pawelczyk, J.A., S. Stern and P.B. Raven. Baroreflexes are less effective in endurance athletes. Med. Sci. in Sports and Exerc. 21:S42, 1989.

Raven, P.B., **J.A. Pawelczyk**, G.H.J. Stevens and M.L. Smith. Exercise training adversely affects blood pressure regulation during lower-body negative pressure (LBNP). Proceedings of the XXXI International Congress of Physiological Sciences, Helsinki, Finland, July, 1989.

Wilson, L.B., P.T. Wall, **J.A. Pawelczyk**, K. Matsukawa, J. Antonio and J.H. Mitchell. Dissimilar ventilatory responses to continuous and intermittent isometric muscle contractions. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 4:A1196, 1990.

Wall, P.T., L.B. Wilson, **J.A. Pawelczyk**, K. Matsukawa and J.H. Mitchell. Cardiovascular and phrenic responses to graded muscle stretch. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 4:A426, 1990.

Levine, B.D., **J.A. Pawelczyk**, J.C. Buckey, B.A. Parra, P.B. Raven and C.G. Blomqvist. The effect of carotid baroreceptor stimulation on stroke volume. Clin. Res. 38:333A, 1990.

Pawelczyk, J.A., P.T. Wall, G.A. Ordway and J.H. Mitchell. Reversible cardiac denervation in dogs. Annual Meeting of the American Heart Association. Circulation, 82:III-636, 1990.

Pawelczyk, J.A., N.H. Secher, R.A. Pawelczyk and J.H. Mitchell. Role of muscle mass in the cardiovascular response to static exercise with partial neuromuscular blockade. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 5:A660, 1991.

Pawelczyk, J.A., B. Hanel, R.A. Pawelczyk, J. Warberg and N.H. Secher. Vasoconstriction in active limbs during exercise with reduced cardiac output. Annual meeting of the American College of Sports Medicine. Med. Sci. Sports Exerc. 23:S5, 1991.

Alexander, T., D.B. Friedman, B.D. Levine, **J.A. Pawelczyk** and J.H. Mitchell. Cardiovascular responses during static exercise: studies in patients with complete atrioventricular block. Annual Meeting of the American Heart Association. Circulation, 1991.

Sittig, D.F. and **J.A. Pawelczyk**. An on-line data acquisition and analysis system to determine cardiac output: a one-step CO₂ rebreathing technique. Annual Meeting of the Institute for Electrical and Electronic Engineers. Comp. in Med. 13:1179-1180, 1991.

Dyke, C.K., L.B. Wilson, **J.A. Pawelczyk**, P.T. Wall and J.H. Mitchell. The effect of muscle fiber type on the cardiorespiratory responses to static contraction in rabbits. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 6:A1539, 1992.

Pawelczyk, J.A., R.A. Pawelczyk, S. Matzen and N.H. Secher. Thoracic impedance, not central venous pressure, predicts changes in central blood volume during orthostatism. Annual meeting of the Federation of American Societies of Experimental Biology. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 6:A1771, 1992.

Dyke, C.K., L.B. Wilson, **J.A. Pawelczyk**, P.T. Wall and J.H. Mitchell. Cardiorespiratory responses of decerebrate rabbits to hindlimb contraction and passive stretch. Annual meeting of the American College of Sports Medicine. Med. Sci. Sports Exerc. 24:S165, 1992.

Pawelczyk, J.A., S. Matzen, R.A. Pawelczyk and N.H. Secher. Effect of a serotonin (5-HT₃) receptor antagonist on cardiovascular responses during dynamic exercise. Annual meeting of the American College of Sports Medicine. Med. Sci. Sports Exerc. 24:S31, 1992.

Nolan, P., **J.A. Pawelczyk**, and T.G. Waldrop. Neurons in the ventrolateral medulla receive input from descending "central command" and feedback from contracting skeletal muscle. Annual meeting of the American Physiological Society. Physiologist 35:240, 1992.

Strange, S. **J.A. Pawelczyk**, N.H. Secher, J.H. Mitchell, N.J. Christensen, J. Karpakka and B. Saltin. Cardiovascular response to electrically induced dynamic exercise with epidural anaesthesia. Annual meeting of the Scandinavian Physiological Society. Acta Physiol. Scand. 146, suppl. 608:135, 1992.

Crandall, C.G., K.A. Engelke, **J.A. Pawelczyk**, P.B. Raven, and V.A. Convertino. Spectral analysis of heart rate variability following 16 days simulated microgravity exposure. Annual meeting of the Aerospace Medical Association. Aviat., Space, and Environ. Med., 1993.

Pawelczyk, J.A., S. McMinn, B. Murchison, and A.C. Jacoby. Swimming economy is optimized at a freely chosen distance per stroke. Annual meeting of the American College of Sports Medicine. Med. Sci. Sports Exerc. 25:S94, 1993. (Presented by L. Bertocci).

Pawelczyk, J.A., R. Query, J. Zuckerman, S.B. McMinn and P.B. Raven. Sympathetic activation with abdominal compression: a mechanism for the action of medical anti-shock trousers. FASEB J. 8:640, 1994.

Ray, C.A., and **J.A. Pawelczyk**. Endogenous opiates do not modulate cardiovascular and autonomic responses to static exercise. Annual meeting of the American College of Sports Medicine. Med. Sci. Sports Exerc. 26:S112, 1994.

Bryant, K.H., **J.A. Pawelczyk**, X. Shi, and P.B. Raven. Assessment of heart rate changes during progressive exercise using power spectral analysis. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 9:A358, 1995.

Pawelczyk, J.A., B.D. Levine, G.K. Prisk, B.E. Shykoff, A. Elliott, and E. Rosow. Accuracy and precision of flight systems for determination of cardiac output by soluble gas rebreathing. Annual meeting of the the American Institute of Aeronautics and Astronautics. Am. Inst. Aeronautics and Astronautics J.

Pawelczyk, J.A., B.D. Levine and P. DeFrain. Cardiovascular and sympathetic rhythmicity without ventilation: Evidence for centrally-mediated low-frequency oscillations. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 9:A840, 1995.

Pawelczyk, J.A., and B.D. Levine. Limb vascular responsiveness to adrenergic agonists following physical deconditioning. Annual meeting of the American College of Sports Medicine. Med. Sci. Sports Exerc. 27:S31, 1995.

Levine, B.D., J.H. Zuckerman, and **J.A. Pawelczyk**. Cardiac mechanics after simulated microgravity. Annual Meeting of the American Heart Association. Circulation. 92:I590, 1995.

Pawelczyk, J.A., K.M. Harper, and B.D. Levine. Bed rest deconditioning reduces leg, but not arm, arterial compliance. Annual Meeting of the American Heart Association. Circulation. 92:I92, 1995.

Levine, B.D., J.H. Zuckerman, and **J.A. Pawelczyk**. Changes in cardiac mechanics (Frank-Starling relations) after two weeks of head-down tilt. Annual meeting of the Federation of American Societies of Experimental Biology. Annual meeting of the Federation of American Societies of Experimental Biology. FASEB J. 9:A898, 1995.

Pawelczyk, J.A., and B.D. Levine. Cardiovascular responses to rapid volume infusion: the human Bainbridge reflex. Annual Meeting of the American Heart Association. Circulation. 92:I69, 1995.

Shi, X., **J.A. Pawelczyk**, J.H. Zuckerman, P.B. Raven, and B.D. Levine. Forearm vascular resistance response to change in cardiac volume: effect of physical deconditioning. Annual meeting of the American Physiological Society. Physiologist 39:A18, 1996.

Zuckerman, J.H., R. Zhang, **J.A. Pawelczyk**, and B.D. Levine. Plasma volume effects on bed-rest deconditioning related baroreflex impairment. Annual Meeting of the American Heart Association. Circulation 94:I-490, 1996.

Shi, X., **J.A. Pawelczyk**, J.H. Zuckerman, P.B. Raven, and B.D. Levine. Bed-rest enhances calf vasodilator response to saline infusion induced central hypervolemia. Annual meeting of the American College of Sports Medicine. Med. Sci. Sports Exerc. 28:S173, 1996.

Zhang, R., J.H. Zuckerman, **J.A. Pawelczyk**, and B.D. Levine. Regulation of cerebral blood flow after simulated microgravity. Annual meeting of the American College of Sports Medicine. Med. Sci. Sports Exerc. 28:S173, 1996.

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